

REVISION OF AUSTRALIAN LEPIDOPTERA. LASIOCAMPIDAE.

By A. JEFFERIS TURNER, M.D., F.E.S.

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In the preparation of this revision, together with some corrections and additions to the families previously treated, I have been much assisted by the loan of specimens from the South Australian Museum, The National Museum, Melbourne, the Australian Museum, Sydney, and from Mr. G. Lyell, Mr. G. M. Goldfinch and other entomologists. Specially helpful has been the loan of some types from the Lucas Collection recently acquired by the South Australian Museum. Unfortunately some of the Lucasian types have not yet been discovered in this Collection.

Family LYMANTRIADAE.

Dr. Starr Jordan of California informs me that the generic name *Liparis* was used for a fish by Scopoli in 1777, antedating its use in the Lepidoptera. It seems, therefore, that we must use the name Lymantriadae for the family, Liparidae being inadmissible.

PORTHESIA XUTHOSTERNA, n.sp. ξοῦθόστερνος tawny-breasted.

c. 28-30 mm. Head and thorax white, more or less suffused with orange-ochreous; pectus orange-ochreous. Palpi white. Antennae whitish; pectinations grey. Abdomen white, with two, three, or four blackish median dorsal spots. Legs white; anterior pair, except tarsi, suffused in front with orange-ochreous. Forewings oval-triangular, costa rather strongly arched, apex rounded, termen bowed, moderately oblique; white; cilia white. Hindwings with termen rounded; white; cilia white.

Not unlike P. euthysana Turn., but there are no long spathulate ochreous scales on dorsal margin of forewings.

Queensland: National Park (2,000-4,000 ft.) in February and March. New South Wales: Mt. Wilson (3,500 ft.) in November. Eight specimens.

PORTHESIA SEMIFUSCA.

Orgyia semifusca Wlk., Char. Undeser. Lep. Het., 1869, 65; Porthesia ? irrorata Luc., Proc. Roy. Soc. Q'ld., 1892, 77; Ocybola semifusca Turn., Mem. Nat. Mus., Melb., iv., 1912, 5; Porthesia melambaphes Turn., Proc. Linn. Soc. N.S.W., 1920, 480.

According to Mr. J. A. Kershaw the P has narrow rudimentary wings, but this character by itself scarcely justifies generic separation.

Victoria: Sale, Melbourne.

HABROPHYLLA EURYZONA.

Mr. J. D. Wilson has kindly sent me two females reared from larvae. They are completely apterous and the legs and antennae are much reduced. Although apterous females are not uncommon in this family, this is the first instance that I know of in the *Euproctis* group.

AXIOLOGA PURA.

There are two $\mathfrak P$ examples in the Lucas Collection labelled as this species in Mr. R. Illidge's handwriting. Neither of them corresponds with Lucas's description; his type, which cannot be found, was smaller, and had two dentate black lines. I think it may have been the $\mathfrak G$ of this species, though stated to be $\mathfrak P$. Until the $\mathfrak G$ has been rediscovered this must remain a conjecture.

DURA MARGINEPUNCTATA.

Previously known only from New Guinea and North Queensland, the range of this species has been recently discovered to extend much further south.

Queensland: Bunya Mountains (W. B. Barnard); New South Wales: Lismore (V. J. Robinson), Tuncurry (G. M. Goldfinch).

Genus OLENE.

A character of this genus which I have not previously noted is that, while the S has two pairs of spurs on the posterior tibiae, in the P the median spurs are absent.

OLENE OSTRACINA Turn.

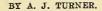
The receipt, from Mr. W. B. Barnard, of an example of this species in much better condition than the type enables me to refer it to its right genus and to give a more accurate description.

9. 45 mm. Head, palpi, antennae, thorax, abdomen, and legs whitish. A small ochreous posterior thoracic crest, and a larger ochreous crest on dorsum of second abdominal segment. Posterior tibiae with terminal spurs only. Forewings with costa strongly arched, apex rounded, termen nearly straight, moderately oblique; whitish; markings fuscous mixed with brown; a basal dot followed by a fine incomplete outwardly oblique line; a median, large, longitudinally oval, sub-basal spot; a finely dentate transverse line at one-third; a dentate and sinuate transverse line at two-thirds, preceded by a short transverse streak beneath costa; immediately followed by a large post-median blotch with a large truncate posterior process beneath costa, and another in middle, narrowing rapidly below middle, and not reaching dorsum; an interrupted crenulate sub-marginal line; cilia whitish. Hindwings and cilia whitish.

North Queensland: Cooktown in April.

Species wrongly referred.

Artaxa usta Luc., Proc. Roy. Soc. Q'ld., 1894, 106, belongs to the Drepanidae.



Family ANTHELIDAE. Genus ANTHELA.

An examination of the types in the Lucas Collection has shown me that the species I have previously described as A. magnifica is really A. asciscens Luc. It is a larger species than the true A. magnifica Luc. which I have hitherto called asciscens. The latter has two white discal spots on the forewings, and the hindwings are fuscous without ochreous tinge.

ANTHELA CALLICESTA, n.sp. καλλὶκεστόs, beautifully figured.

9. 58 mm. Head, palpi, antennae, and thorax dark-fuscous; pectus ochreous. Abdomen dark-fuscous; under surface ochreous. Legs dark-fuscous with a few Forewings triangular, costa straight to near whitish scales; coxae ochreous. apex, apex pointed, termen bowed, only slightly oblique; dark-fuscous with slight grey-whitish irroration; two very obscure, suffused, darker transverse lines; first from one-third costa to dorsum before middle, outwardly-curved; second from two-thirds costa to dorsum beyond middle, approximated to dorsal end of first line; a whitish discal dot at one-third before and touching first line; a farger, transversely-elongate, whitish discal spot before two-thirds, touching second line; a more slender, obscure, dark, subterminal line; a grey-whitish, rather narrow, terminal band, anteriorly sharply defined by a strongly crenated border; cilia grey-whitish. Hindwings with termen rounded; as forewings, but without Underside similar but ochreous-tinged, basal half of disc mostly discal spots. dark-fuscous; terminal half mostly greyish-ochreous; without discal spots, or with second spot on forewings just indicated. Very distinct by the scalloped grey border of wings.

New South Wales: Sydney in October; one specimen, which forms part of a general collection made entirely from within the boundaries of his own home by Dr. G. A. Waterhouse, who proposes to donate the type to the Australian Museum.

Species wrongly referred.

Darala rosea Luc., Proc. Linn. Soc. N.S.W., 1891, 291, belongs to the Limacodidae.

Darala consuta Luc., Proc. Roy. Soc. Q'ld., 1899, 139, is a synonym of Cotana serranotata Luc. (Eupterotidae).

Family SATURNIADAE.

Dr. R. J. Tillyard has kindly sent me particulars of the pupal tracheation of Antheraea eucalypti. The areole is absent (as I expected), but previous conjectures as to the missing veins of the forewings are disproved. In the pupa R₁ separates from Rs near the base, Rs is three-branched, and M is two-branched, instead of four and three-branched respectively as in normal Heterocera.

Translating this into the usual notation, the definition should be amended thus—veins 5 and 6 coincident, 10 absent (rarely present and separating just before apex).

Genus ANTHERAEA.

Vein 11 of forewings, which usually separates towards apex, may be absent. It is so sometimes in A. astrophela, so also in the species here described.

ANTHERAEA SACCOPOEA, n.sp. σακκοποιος, making bags or sacks.

- Palpi very short; purple-reddish; 3. 84-94 mm. Head purple-reddish. upper surface and apex ochreous. Antennae ochreous. Thorax and abdomen Legs purple-reddish tinged with ochreous. purple-reddish. Forewings triangular, costa straight to beyond middle, thence strongly arched, apex roundedrectangular, termen straight, slightly oblique; purple-reddish; suffused with grey on costa; ocellus post-median, small, circular, faintly outlined with purplish, a narrow white curved line on inner aspect followed by a crimson meniscus, remainder ochreous with a narrow, transverse, slit-like hyaline centre; a whitish subterminal line edged on both sides with purplish, nearly straight, from costa shortly before apex to two-thirds dorsum; an obscure purple-crimson apical patch; cilia concolorous, apices whitish. Hindwings with termen very slightly rounded, tornus prominent; colour as forewings; ocellus as forewings, but outlined with fuscous and without hyaline centre; subterminal line similar but curved and wavy; a darker suffused antemedian transverse line. similar but duller; ocelli encircled with whitish.
- 2. 104 mm. Similar but wings grey; hindwings with termen more rounded and tornus less prominent.

North Queensland: Cooktown; two specimens received from Mr. W. B. Barnard. The larvae pupate in large irregularly shaped bags of loose brown silk, in which each spins a separate loose cocoon. These bags are spun among the twigs and leaves of a shrub locally known as "wild guava" or "wild pear" in the bush within thirty miles of Cooktown. Twenty or thirty may emerge from a single bag; they emerged in Toowoomba in March, but unfortunately nearly all failed to expand their wings, and were badly crippled. This may have been due to the drier atmosphere of that place.

Family BOMBYCIDAE.

On reconsideration, I have come to the conclusion that the Eupterotidae cannot be separated from this family. It may be noted that my definitions of these two families previously given are practically identical, and it is unnecessary to repeat them. Even after this amalgamation the family is only of moderate size. The few Australian genera may be separated by the following key:—

1.	Both wings with 5 from upper angle of cell	2.
	Both wings with 5 from beneath upper angle	4.
2.	Forewings with 9, 10 closely approximated to 11 in posterior third	
	and usually connected with it by a crossbar (Cotana

4. Both wings with vein 1 absent Eupterote
Both wings with vein 1 present Gastridiota

GASTRIDIOTA ADOXIMA.

3. 26-31 mm. Head, thorax, and antennae dark chocolate-brown; face sometimes paler. Abdomen dark chocolate-brown; tuft with spreading hairs, which have fuscous apices. Forewings triangular, costa straight to near apex, apex pointed, termen nearly straight, slightly oblique; dark chocolate-brown; a triangular costal area with whitish or ochreous-whitish irroration, from one-

fourth gradually increasing in breadth to middle, where it ends abruptly; in this is a small darker discal spot with pale centre; a short transverse mark of similar colour on costa before three-fourths; an ochreous mark on dorsum beyond middle, followed by a dark line, and this by some ochreous irroration; cilia concolorous. Hindwings with termen rounded, tornus prominent; dark chocolate-brown; a slight ochreous irroration on termen above middle; a paler irroration on dorsum from one-fourth to three-fourths, followed by a dark line, and this by a pale mark; cilia ochreous, on dorsum chocolate-brown mixed with ochreous-whitish on dorsal markings.

I have received two males from Mr. V. J. Robinson, who has bred the species from larvae feeding on *Ficus* at Rous, near Lismore, N.S.W.

Family NOTODONTIDAE. Subfamily CNETHOCAMPINAE.

Genus MESODREPTA nov.

μεσο-δρεπτος, picked out from the middle.

Palpi obsolete. Posterior tibiae without middle spurs. Forewings with 5 from about middle of cell, 6 from upper angle, areole present but rather small, 7, 8, 9 stalked, 10 connate with them. Hindwings with 3 and 4 separate, 5 from middle of cell, 6 and 7 stalked, 12 approximated to cell to beyond middle, not connected.

An interesting discovery intermediate between *Cynosarga*, with which it agrees in neuration, and *Epicoma*, with which it agrees in the absence of palpi and middle spurs. It clearly indicates the ancestry of the latter genus.

MESODREPTA HARPOTOMA, n.sp. ἀπότομος, divided by a sickle.

\$\delta \text{?}\$. 38-45 mm. Head grey-whitish; face ochreous. Antennae whitish; pectinations in \$\delta \text{ 10}\$, in \$\bega \text{5}\$, ochreous-tinged. Thorax white, anteriorly greyishtinged. Abdomen ochreous; in \$\beta\$ annulated with dark-fuscous; tuft and underside white. Legs white; anterior pair ochreous mixed with blackish on dorsum. Forewings triangular, costa straight, in \$\beta\$ slightly arched, apex round-pointed, termen bowed, slightly oblique; a narrow, outwardly curved, sickle-shaped fascia from mid-dorsum to costa shortly before apex, broadest on dorsum, thence gradually narrowing, blackish, crossed by short ochreous streaks on veins; cilia white. Hindwings with termen rounded, white, cilia white. Underside wholly white. The sexes are similar.

Queensland: Toowoomba in December. I have received two examples of this very distinct species from Mr. W. B. Barnard, who has generously given me the type.

Subfamily NOTODONTINAE.

OMICHLIS HADROMENES.

In Mr. W. B. Barnard's Collection is a striking & aberration in which a fuscous median streak extends from base to termen. It is from Kuranda (F. P. Dodd).

Family LASIOCAMPIDAE.

Tongue absent. Maxillary palpi obsolete. Labial palpi moderate or long, porrect. Eyes often small, usually hairy. Thorax and abdomen stout, densely hairy. Legs densely hairy; posterior tibiae without middle spurs, all terminal spurs very short. Forewings with cell small, areole never present; anal vein

not furcate at base; 1 absent, or rarely weakly developed towards termen; 2 from near base, 3 usually from about middle of cell, 4 and 5 approximated from angle, 6 from upper angle, 9 and 10 always stalked. Hindwings with two anal veins, 1 absent, 7 from well before angle of cell, usually from near base (except in *Perna* and *Neurochyta*), 11 running into 12, or replaced by an anastomosis of 12, with 7 near its base, or more rarely with cell; from the subcostal cell so formed arise usually one or more pseudoneuria, which are often branched in an irregular and sometimes arborescent fashion. Frenulum and retinaculum absent in both sexes; hindwings with a strong basal costal expansion.

The Lasiocampidae are found in all continental areas, and are no doubt an ancient group which specialised early (1) by the loss of the interradial crossvein or anastomosis between 8 and 9 and consequently of the areole, (2) by the loss of frenulum and strong costal expansion of hindwing leading in these heavy-bodied moths to connections of the subcostal and radial veins in that region, with the development of pseudoneuria. They are an isolated group and whether there are any exotic families which should be grouped with them in the

same superfamily is doubtful.

The subcostal cell of the hindwing appears to have been formed originally by vein 11 (the first radial) running into 12 (the subcostal). This is a structure that occurs in many families, but the Lasiocampidae were peculiar in having 11 arising from near the upper angle of the cell, sometimes even stalked with 7. Two lines of development followed, firstly, the loss of 11 and its replacement by an anastomosis and, secondly, a displacement of the origin of 7 along the costal edge of the cell, until it arose from near the base. Accordingly the genera appear to fall into three natural groups: (1) those in which 11 is retained, such as Perna, in which the subcostal cell is unusually large, and the European Odonestis, in which it is more moderate; to this section I refer also the African genus Anadiasa; (2) those in which 7 still arises from near the angle of cell, but the subcostal cell is much smaller and 12 anastomoses with the cell before the origin to 7; of these Neurochyta, the European Clisiocampa, and the African Bombycomorpha are examples; (3) those in which 12 anastomoses with 7 close to its origin from near the base of the cell; these comprise the bulk of the family, and all the Australian genera except the two already mentioned.

This revision contains 54 species referred to 12 genera. In number of species this exceeds Europe (31 species) and North America (24 species), and equals India (54 species). The family is most numerous in Africa, and the South African list comprises 88 species. The species of Lasiocampidae, at least the females, are mostly sluggish in their habits and do not appear to range very widely. So far as known, all our genera are confined to the Australian region; but until those of other regions have been critically examined, this cannot be affirmed with certainty. In any case the proportion of endemic genera

is probably large.

Key to genera.

1.	Hindwings with 11 absent, 12 anastomosing with cell, or with 7 near its
	base
	Hindwings with 11 present
	Hindwings with 12 anastomosing with 7 near its base 3.
	Hindwings with 12 anastomosing with cell before origin of 7 Neurochyta
3	Palni short or moderate not exceeding frontal trift

4.	Hindwings with cell exceeding $\frac{1}{2}$
	Hindwings with cell $\frac{1}{2}$ or less
5.	Forewings with 6, 7, 8 stalked
	Forewings with 8 separate
6.	Forewings with 7, 8 stalked, 6 separate Eremaea
	Forewings with 6, 7 stalked or rarely connate 7.
7.	Hindwings with subcostal cell minute or obsolete Eremonoma
	Hindwings with subcostal cell well developed 8.
8.	Hindwings with 4 and 5 stalked 9.
	Hindwings with 4 and 5 separate
9.	Eyes smooth
	Eyes hairy
10.	Hindwings with 4 and 5 stalked 11.
	Hindwings with 4 and 5 separate
11.	Eyes smooth
	Eyes hairy
	1 0 D

1. Genus Pinara.

Wlk., Cat. Brit. Mus., iii., 761. Type, P. cana Wlk.

Eyes small, hairy. Palpi short, not exceeding frontal tuft. Forewings elongate; 6, 7, 8 stalked, 8 separating before or opposite 6. Hindwings in & more or less produced at tornus; cell exceeding 1, 11 absent, 12 anastomosing with 7 near its base, subcostal cell moderate, giving origin to a single pseudoneurium near its base.

This genus, like the two following, has very dissimilar sexes. The males are considerably smaller than the females, with narrower forewings, hindwings more prominent at tornus, coloration much darker and more pronounced. The species require careful discrimination, the females especially being closely similar.

Key to males.

1.	Forewings very narrow, termen strongly sinuate	sesioides 2.
2.	Forewings with large pale tornal blotch extending along dorsum to	base
	Forewings without tornal blotch	cana . 3.
3.	Forewings fuscous-grey	obliqua
	Forewings reddish-brown	metaphaea
	Key to females.	
1.	Hindwings whitish	obliqua
	Hindwings grey	cana
	Hindwings fuscous	2.
2.	Hindwings wholly fuscous	sesioides
	Hindwings with whitish terminal band	metaphaea
	1. Pinara sesioides.	

Eumeta sesioides, Wlk., Cat. Brit. Mus., xxxv., 1924.

3. 38-40 mm. Head and thorax grey. Palpi grey. Antennae grey; pectinations dark-fuscous. Abdomen grey, tuft tipped with dark-crimson. Legs grey. Forewings narrowly triangular, costa straight to near apex, apex rounded, termen very long, strongly oblique, strongly sinuate; grey, towards base and costa suffused with dark-crimson, extreme base ochreous-tinged; a whitish transverse line near base; a whitish transverse median discal mark; a whitish line from four-fifths costa to four-fifths dorsum, slightly outwardly curved or sinuate;

posterior to this a wavy series of subterminal dots, their inner halves ochreous, outer halves blackish; eilia grey. Hindwings small, costa short, tornus rounded, projecting; dorsal area grey; a dark-fuscous costal blotch; a triangular ochreousbrown terminal blotch; eilia dark-grey, apices whitish.

Described from two examples, including the type, in the British Museum. The locality labels are "Moreton Bay." There is a pair in the Queensland Museum obtained from Brisbane pupae by Mr. H. Hacker. The \eth is 35 mm., the \Im 50 mm. Head, thorax, and forewings pale-grey; the latter without markings except the usual dichroic subterminal spots. Abdomen and hindwings pale-fuscous.

This species is near P. metaphaea, but the forewings of \mathcal{S} are narrower, termen strongly sinuate, and ochreous blotch on hindwing triangular; while in \mathcal{S} the hindwings have no pale margin.

2. PINARA CANA.

9. Wlk., Cat. Brit. Mus., iii., 761.—3. Entometa divisa Wlk., ibid., iv., 973.—Opsirhina punctilinea Wlk., Char. Undesc. Lep., p. 67.

- 36-38 mm. Head, palpi, thorax, and abdomen dark-grey. Antennae fuscous, stalk grey. Legs grey; tarsi fuscous annulated with whitish. Forewings elongate-triangular, costa straight to near apex, apex round-pointed, termen slightly bowed, very oblique; fuscous; a large tornal grey blotch, curved upwards to reach discal spot, and prolonged to base between dorsum and vein 1, sharply defined from fuscous area, from which it is sometimes separated by a fine whitish line towards base; sometimes a pale transverse line traverses fuscous area near base, but this is usually absent; a transversely constricted, whitish, discal spot on end of cell; a fine whitish line from three-fourths costa very seldom traceable to dorsum before tornus, followed in dorsal half by a series of spots, anteriorly orange, posteriorly blackish; cilia fuscous. Hindwings produced at tornus, termen rounded; grey or fuscous; sometimes a large orange blotch in centre extending from termen nearly to base, but this may be wholly absent. An aberrant 3 from Mt. Lofty lacks the pale dorsal blotch on forewings.
- 9. 43-68 mm. Head, thorax, and abdomen grey. Palpi fuscous, grey above and beneath. Antennae blackish. Legs grey; tarsi fuscous with whitish annulations. Forewings oval-triangular, costa gently arched, apex round-pointed, termen bowed, oblique; grey; sometimes paler ante-median and post-median transverse lines; the latter followed by a doubly sinuous line of dots, anteriorly orange, posteriorly blackish; eilia grey. Hindwings with termen rounded; grey; sometimes a suffused fuscous subtornal spot; cilia grey.

North Queensland: Prince of Wales Island, Herberton; Queensland: Rockhampton, Duaringa, Brisbane, Stanthorpe; New South Wales: Glen Innes; Victoria: Melbourne, Gisborne, Bamawm; Tasmania: Launceston; South Australia: Adelaide, Mt. Lofty; Western Australia: Perth.

3. PINARA OBLIQUA.

- 3. Entometa obliqua Wlk., Cat. Brit. Mus., iv., 973; Rhinogyne calligama Feld., Reise Nov., Pl. 84, f. 9, 10.
- 3. 43-44 mm. Head, antennae, thorax, abdomen, and legs fuscous. Palpi fuscous, beneath grey-whitish. Forewings narrowly triangular, costa nearly straight, apex rounded, termen sinuate, strongly oblique; fuscous with general sparse whitish irroration, rather more pronounced in median area; a darker basal patch; sometimes a curved transverse fuscous line at one-fourth; some-

times a minute whitish transverse discal mark at end of cell; a doubly sinuate, subterminal line of spots, dark-fuscous edged anteriorly with orange; cilia fuscous. Hindwings with termen rounded, flattened or sinuate in middle; dark-fuscous; a large orange terminal blotch extending from apex to tornus; cilia orange, on costa and dorsum fuscous.

Ŷ. 58-68 mm. Head and thorax grey-whitish. Palpi grey-whitish, external surface narrowly dark-fuscous. Antennae dark-fuscous. Abdomen fuscous (rarely grey); tuft whitish. Legs grey-whitish; tarsi_dark-fuscous with whitish annulations. Forewings elongate, but broader than in ♂, termen slightly bowed; grey-whitish; an outwardly curved grey line from one-third costa to three-fourths dorsum, rarely obsolete; a second similar line precedes subterminal series of spots, which are as in ♂; cilia grey-whitish. Hindwings with termen rounded; whitish; a suffused grey spot above tornus.

A dwarf of from Launceston expands only 34 mm.

New South Wales: Newcastle, Mt. Kosciusko; Victoria: Melbourne, Lilydale, Gisborne; Tasmania: Launceston; South Australia: Adelaide, Mt. Lofty.

4. PINARA METAPHAEA.

- 9. Opsirrhina metaphaea Wlk., Cat. Brit. Mus., xxxii., 556.—3. Entometa adusta Wlk., Char. Undesc. Lep., p. 16.—3. Pinara rufescens Butl., Trans. Ent. Soc., 1886, 387.
- 3. 34-42 mm. Head, palpi, thorax, and abdomen reddish-brown. Antennae fuscous, stalk paler. Legs reddish-brown; tarsi fuscous with whitish annulations. Forewings narrowly triangular, costa straight to near apex, apex round-pointed, termen slightly bowed, very oblique; reddish-brown; a dark-red basal suffusion more or less prolonged beneath costa; a curved, whitish, sub-basal transverse line; a whitish, constricted, discal spot on end of cell; a fine, sinuate, whitish line from four-fifths costa to dorsum before tornus, followed by a doubly sinuate line of spots, anteriorly orange, posteriorly blackish; cilia reddish-brown. Hindwings strongly produced at tornus, termen rounded; dark-reddish-fuscous; a rather narrow, orange, terminal band, partly interrupted on veins; scarcely reaching apex and tornus; cilia pale-ochreous, on tornus and dorsum brownish.
- Q. 56-64 mm. Head and thorax grey. Palpi grey; fuscous towards apex. Antennae blackish. Abdomen fuscous; the two terminal segments and tuft palegrey. Legs grey; tarsi fuscous with whitish annulations. Forewings elongate-oval; costa gently arched, apex round-pointed, termen bowed oblique; grey, paler towards termen; a darker grey, outwardly-curved line from one-third costa to one-third dorsum; a similar sinuate line from two-thirds costa to two-thirds dorsum, followed by a doubly sinuate line of spots, anteriorly orange, posteriorly blackish; cilia pale grey. Hindwings with termen rounded; fuscous; a grey-whitish, terminal band; cilia grey-whitish, on dorsum fuscous.

P. rufescens Butl. is an aberrant of with the hindwings uniform pale brownish-grey without orange, terminal band.

Queensland: Rockhampton, Nambour, Brisbane; Victoria: Warburton; New South Wales.

2. Genus CREXA.

Wlk., Cat. Brit. Mus., xxxv., 1927. Type, C. punctigera Wlk.

Eyes rather small, hairy. Palpi short or very short. Forewings elongate; 6 and 7 stalked, 8 separate. Hindwings in 3 produced at tornus; cell exceeding

1, 11 absent, 12 anastomosing with 7 near its base, subcostal cell moderate, giv-

ing origin to a single pseudoneurium near its base.

Closely corresponding in structure to *Pinara*, but 8 of forewings not stalked; though this character varies in some genera, in this instance it appears reliable, and separates two natural genera. Like *Pinara* it has usually dissimilar sexes, the males much smaller and with the forewings partly hyaline; the females, however, differ more from each other than the males of the several species. But in *acedesta* and *fola* the sexes are similar.

	Key to males.
1.	Forewings mostly hyaline
	Forewings not mostly hyaline 4.
2.	Forewings with pretornal blotch and dentate postmedian line whitish
	rhoda
	Forewings without these markings 3.
3.	Forewings with double fuscous discal spots punctigera
	Forewings with single discal spot subnotata
4.	Hindwings fulvous-brown macroptila
_	Hindwings grey
5.	Forewings with broad median brownish band fola
	Forewings without median band acedesta
	Key to females.
1.	
	Hindwings with whitish lines 3.
2.	
	anteriorly and posteriorly punctigera
	Forewings with discal spot small or obsolete fold
3.	
	Forewings without defined white fascia 4.
4.	Forewings with large postmedian whitish suffusion rhoda
	Forewings without large whitish suffusion 5.
5.	Forewings with discal spot ochreous-brown with whitish centre, edged with
	hlackish anteriorly and posteriorly
	blackish anteriorly and posteriorly

5. CREXA PUNCTIGERA.

- 3. Entometa punctigera Wlk., Cat. Brit. Mus., iv., 974.—?. Mecytha trimacula Wlk., ibid., v., 1122.—3. Crexa anthraxoides Wlk., ibid., xxxv., p. 1926.—4. Dichromosoma majus Feld., Reise Nov., Pl. 83, f. 26.—3. Bombyx picta Luc., Trans. Nat. Hist. Soc. Q'ld., 1894, 105.
- 3. 32-34 mm. Head whitish. Palpi, antennae, and thorax dark-fuscous. Abdomen fuscous-brown. Legs fuscous; hairs on middle tibiae whitish; tarsi sometimes with fine whitish annulations. Forewings elongate-triangular, costa straight to near apex, apex round-pointed, termen nearly straight, oblique; pale-fuscous but very thinly scaled, nearly hyaline; markings dark-fuscous; a broad dorsal suffusion from base to termen; two discal dots, one before, and one beyond end of cell; an apical suffusion; a subterminal series of spots; cilia fuscous. Hindwings produced at tornus, termen rounded; fuscous, rather thinly scaled; cilia fuscous.
- Q. 40-52 mm. Head white. Palpi dark-fuscous with a white spot on middle of under surface of second joint. Antennae dark-fuscous. Thorax white with three fuscous spots, one anterior, two median. Abdomen fuscous; tuft white. Legs fuscous; hairs on middle tibiae white; tibiae and tarsi annulated with white.

Forewings triangular, costa straight to near apex, apex rounded, termen bowed, oblique; fuscous; some transverse white strigulae towards base, and slight whitish irroration towards termen; a fine white dentate transverse line at one-fifth; two triangular blackish discal marks enclosing between them a circular fuscous area with a central white dot; a blackish mark above mid-dorsum; a white spot on $\frac{3}{4}$ costa giving rise to a finely dentate, sinuate, white line to two-thirds dorsum; a submarginal series of dark-fuscous spots, margined with white; cilia fuscous. Hindwings with termen rounded; fuscous; cilia fuscous.

North Queensland: Cape York, Cairns; Queensland: Brisbane; New South Wales: Sydney; Victoria: Melbourne, Gisborne; Tasmania: Launceston, Ulver-

stone, Hobart, Geeveston; South Australia: Mt. Lofty.

6. CREXA SUBNOTATA.

- 9. Tolype subnotata Wlk., Char. Undeser. Lep. Het., 1869, 67.—9. Sitina albicans Swin., Cat. Oxf. Mus., i., 1892, 268, Pl. vi., f. 10.—9. Bombyx pinnalis Luc., Trans. Nat. Hist. Soc. Q'ld., 1894, 103.—♂. Crexa hyaloessa Turn., Trans. Roy. Soc. S. Aust., 1902, 184.
- 3. 25-30 mm. Head whitish. Palpi, antennae, thorax, abdomen, and legs fuscous. Forewings elongate-triangular, costa sinuate, apex rounded, termen slightly bowed, strongly oblique; mostly hyaline and very sparingly scaled; dorsal area beneath cell and vein 2 fuscous, with an oval blackish spot above middorsum, and crossed before and beyond this by slender whitish lines, some whitish irroration between lines; a suffused fuscous streak along costa from middle to and around apex, interrupted by a white dot at three-fourths; three or four subapical blackish dots edged posteriorly by a slender whitish line; cilia fuscous. Hindwings strongly produced at tornus; hyaline with large dorsal and smaller costal fuscous areas.
- 9. 35-55 mm. Head white. Palpi and antennae fuscous. Thorax white; a large postmedian fuscous blotch, crossed near its anterior extremity by a fine transverse white line. Abdomen fuscous, sometimes partly mixed with white; three apical segments white, but apex of tuft fuscous. Legs whitish; tibiae and tarsi fuscous with whitish annulations. Forewings elongate-triangular, costa very slightly arched, apex rounded, termen bowed, oblique; white suffused, except near base, with pale-grey; several grey spots near base; a wavy transverse white line, edged with grey, from one-third costa to one-third dorsum; a minute, white, median, discal mark; a white line from two-thirds costa, at first transverse then bent inwards and dentate to two-thirds dorsum; a fuscous blotch on dorsum between lines, rounded above; a submarginal series of dark-grey spots, edged posteriorly by a white line; terminal edge and cilia dark-grey. Hindwings with termen rounded; whitish; a transverse median grey line, broader on costa; a subterminal grey fascia interrupted on veins; cilia whitish.

Queensland: Clermont, Brisbane, Charleville; Victoria: Melbourne, Gisborne, Leopold; South Australia: Quorn; Western Australia: Perth, Geraldton.

7. CREXA RHODA.

Sitina rhoda, Swin., Ann. Mag. Nat. Hist. (7), ix., 1902, 82.

6. 26-27 mm. Head whitish-ochreous. Palpi 1½; whitish. Antennae and thorax fuscous. Abdomen brown, towards apex fuscous, tuft whitish. Legs whitish-ochreous; tibiae with fuscous sub-basal and subapical spots on external surface. Forewings elongate-triangular, costa sinuate, apex rounded, termen

very long, very slightly bowed, oblique; the greater part of disc very thinly scaled and translucent; a fuscous basal patch prolonged along costa to apex, and from thence narrowly along termen, where it becomes ochreous-brown; a slender wavy transverse line from one-third costa to mid-dorsum; an ochreous-whitish discal spot beneath midcosta; a similar spot on costa at three-fourths giving rise to a fine dentate line to tornus; a pretornal whitish blotch not reaching dorsum; a fine whitish dentate subterminal line; veins in posterior part of disc ochreous-brown; cilia ochreous-brown. Hindwings elongate, dorsum very long, tornus prominent, termen slightly rounded; pale-ochreous with a large fuscous-brown terminal blotch; cilia brown.

9. 36-40 mm. Head and thorax ochreous-whitish. Palpi 2½; terminal joint longer than second, with appressed hairs; whitish. Antennae whitish, pectinations brownish. Abdomen pale ochreous-brown, towards apex ochreous-whitish. Legs whitish; tibiae and tarsi spotted with fuscous. Forewings triangular, costa straight to near apex, apex rounded, termen bowed, oblique; pale-ochreous-brown; near base suffused or spotted with whitish; a slender whitish dentate transverse line from one-third costa to one-third dorsum; a slight whitish irroration posterior to this; a whitish discal spot beneath midcosta; a whitish mark on four-fifths costa running into a large post-median whitish suffusion extending to dorsum and nearly to termen; a dentate whitish subterminal line; cilia pale ochreous-brown. Hindwings with termen rounded; pale-ochreous-brown; a broad median whitish transverse line; an interrupted whitish subterminal line; cilia pale ochreous-brown.

There is a series including the type in the British Museum. The P palpi are anusually long for this genus, those of the 3 are normal.

N.W. A.: Sherlock River.

8. Crexa macroptila.

3. Turn., Ann. Q'ld. Mus., x., 1911, 92. North Queensland: Chillagoe.

9. CREXA DIANIPHA.

Turn., Ann. Q'ld. Mus., x., 1911, 92.
 North Queensland: Cape York.

10. CREXA ACEDESTA.

Turn., Ann. Q'ld. Mus., x., 1911, 94.—Sitina cinyra Swin., Ann. Mag. Nat. Hist. (8), xix., 1917, 333.

Victoria: Melbourne, Birchip; South Australia: Adelaide; Western Australia: Perth.

11. CREXA FOLA.

Clathe fola, Swin., Ann. Mag. Nat. Hist. (7), ix., 1902, 82.

♂. 21-22 mm. ♀. 26-27 mm. Head, palpi, and thorax pale-grey. Antennae pale-grey; pectinations in ♂ 10, in ♀ 2½. Abdomen grey. Legs grey. Forewings triangular, costa straight nearly to apex, apex rounded, termen slightly bowed, scarcely oblique; pale-grey; a broad median brownish band occupies nearly half of wing, and is edged by slender whitish lines; in ♀ this may be obsolete, its edges being represented by slender grey lines; sometimes a faintly darker discal spot; a subterminal series of fuscous dots, sometimes indistinct; eilia grey. Hindwings with termen rounded; grey; eilia grey.

There is a series including the type in the British Museum. In the fore-

wings vein 8 usually arises separately from the cell, but in the of may be connate or short-stalked with 9, 10.

N.W.A.: Roeburne, Sherlock River.

3. Genus Eremaea.

Turn., Trans. Roy. Soc. S. Aust., 1915, 803. (ἐρημαῖος living in the desert)

Type, E. zonospila Low.

Eyes moderate, smooth. Palpi short. Thorax and abdomen very densely hairy. Forewings with 6 separate, 7 and 8 stalked. Hindwings with discocellular not developed leaving cell open, occasionally a slight indication of dorsal end of discocellular is present, and 4 and 5 are seen to be stalked, 11 absent, 12 anastomosing with 7 near base, subcostal cell small, pseudoneuria scarcely or not developed.

An isolated genus.

12. Eremaea zonospila.

Bombyx zonospila Low., Trans. Roy. Soc. S. Aust., 1893, 150.

otherous-brown, stalk grey. Abdomen ochreous or ochreous-fuscous; beneath whitish. Legs whitish. Forewings triangular, costa straight, apex rounded, termen strongly bowed, slightly oblique; whitish or grey-whitish; two finely dentate, dark-fuscous, oblique lines, first from one-fourth dorsum to beneath one-third costa, edged posteriorly with ochreous, second from mid-dorsum to beneath two-thirds costa, edged anteriorly with ochreous; cilia whitish. Hindwings with termen rounded; densely hairy towards base; fuscous; cilia whitish.

9. 42-62 mm. Head, palpi, antennae, thorax, abdomen, and legs whitish-ochreous or fuscous. Forewings triangular, costa gently arched, apex rounded, termen bowed, oblique; whitish-ochreous or fuscous with some whitish irroration; sometimes indistinct oblique antemedian and postmedian darker lines; cilia concolorous. Hindwings with termen rounded; colour and cilia as forewings.

The sexes are so dissimilar that I should not have suspected them to be the same species, if Mrs. Williams of Cairns Station near Charleville had not forwarded me four males and six females. The peculiar neuration is the same in both, so that there is little room for doubt.

Queensland: Charleville; South Australia: Ooldea, Eucla, Musgrave Ranges; Western Australia: Kalgoorlie.

This is an inhabitant of the arid interior.

Genus Επεμονομα nov. ἐρημό-νόμος, an inhabitant of the desert.

Eyes moderate or rather large, smooth or hairy. Palpi short, not reaching beyond frontal tuft. Forewings with 2 from one-third, 6 and 7 stalked, 8 connate or short-stalked with them; 11 from two-thirds. Hindwings with 4 and 5 separate or short-stalked, 7 from about middle of cell, 11 absent, 12 anastomosing with cell from near base to origin of 7, and with basal part of 7, subcostal cell minute or absent, a large and usually branching pseudoneurium from base; cell one-fourth or one-third.

Type, E. apasta. This genus affects dry country. It is specialised by the loss or extreme reduction of the subcostal cell by coalescence. In the first two species the eyes are smooth, in the last two hairy. Possibly when more material is available it may be advisable to divide the genus.

Key to species.

1.	Forewings	reddish	apasta
	Forewings	whitish	zoristis
	Forewings	grey	2.
		with fuscous transverse lines	
	Forewings	without markings	holopolia

13. EREMONOMA APASTA, n.sp. ἄπαστος, unsprinkled.

o. 25 mm. Head, palpi, thorax, abdomen, and legs dull-reddish. Antennae reddish; pectinations whitish-ochreous. Forewings triangular, costa straight to near apex, apex round-pointed, termen nearly straight, slightly oblique; dull-reddish; cilia dull-reddish. Hindwings with termen rounded; dull-reddish, or ochreous-whitish with slight reddish suffusion towards margins; cilia reddish, on dorsum sometimes ochreous-whitish.

Queensland: Charleville in November; North-west Australia: Sherlock River (type in British Museum). Two specimens.

14. EREMONOMA ZORISTIS, n.sp.

c. 30 mm. Head, palpi, thorax, abdomen, and legs whitish. Antennae whitish; pectinations fuscous. Forewings triangular, costa straight to near apex, apex round-pointed, termen scarcely bowed, scarcely oblique; uniformly whitish; cilia whitish. Hindwings with termen rounded; whitish; cilia whitish.

Type in Coll. Goldfinch.

South Australia: Port Augusta in October; one specimen.

15. Eremonoma nephelodes, n.sp. νεφελώδης, cloudy.

d. 24 mm. Head and thorax grey mixed with whitish. Palpi 2½; grey. Antennae whitish; pectinations in d 6, grey. Abdomen pale-grey. Legs grey. Forewings triangular, costa straight, apex round-pointed, termen bowed, slightly oblique; whitish-grey, median area grey; an oblique fuscous line from one-sixth costa to one-third dorsum; a dark-fuscous discal spot just beyond middle; a fuscous line from three-fourths costa to two-thirds termen, ill-defined anteriorly; a fine, fuscous, dentate, wavy line from costa near apex, bent inward in disc and continued close to postmedian line to dorsum; cilia whitish-grey. Hindwings with termen rounded; whitish; cilia whitish obscurely barred with grey.

Mr. W. H. T. Tams, who has kindly examined, at my request, the type in

the British Museum, informs me that the eyes are densely hairy.

Western Australia: Yallingup; one specimen taken by Mr. R. E. Turner.

16. Επεμονομά Ηοιοροιία, n.sp. ὁλοπολίος, wholly grey.

9. 42 mm. Head, palpi, antennae, thorax, abdomen, and legs grey. Forewings triangular, costa straight to near apex, apex rounded, termen scarcely bowed, oblique; uniformly grey; cilia grey. Hindwings with termen rounded, grey; cilia grey.

Queensland: Clermont in November; one specimen received from Mr. E. J.

Dumigan.

5. Genus Porela.

Wlk., Cat. Brit. Mus., iii., 772. Type, P. vetusta Wlk.

Eyes hairy. Palpi short or moderate, not exceeding frontal tuft. Forewings with 2 from before middle of cell, 6 and 7 stalked (rarely connate), 8 separate, connate, or short-stalked, 11 from about middle of cell. Hindwings with cell less than ½; 4 and 5 separate or connate (very rarely short-stalked), 7 from about middle, 11 absent; 12 anastomosing with 7 near its base, subcostal cell moderate, with usually two pseudoneuria, one from near its base, one from beyond middle, but the second may be absent, and rarely there are more than two.

This is a genus of some size with some range of variation in structure, pattern, and coloration.

Key to species.

1.	Forewings with veins more or less ochreous-tinged 2.
	Forewings with veins not ochreous-tinged 5.
2.	Hindwings fuscous
	Hindwings not fuscous 3.
3.	Forewings without discal spot obtusa
	Forewings with discal spot
4.	Head and thorax white; antennal pectinations blackish delineata
	Head and thorax ochreous-whitish or grey-whitish; antennal pectinations
	ochreous or ochreous-fuscous
5.	Head and thorax white 6.
	Head and thorax not white 8.
6.	Forewings white with suffused fuscous markings vitulina
	Forewings brown with white markings 7.
7.	Forewings with blackish subterminal spots
	Forewings with brown subterminal spots edged posteriorly with white
	contermina
8.	Hindwings fuscous at base
	Hindwings not fuscous at base 9.
9.	Forewings with postmedian line dark-fuscous
	Forewings with postmedian line not dark-fuscous 10.
10.	Forewings without antemedian line
	Forewings with antemedian line albifinis

17. Porela vetusta.

Wlk., Cat. Brit. Mus., iii., 772.—Perna varia Wlk., ibid., v., 1128.—Clathe anthracica Turn., Trans. Roy. Soc. S. Aust., 1902, 186.

3. 34-36 mm. \(\text{2}. \) 45-54 mm. Head white; face more or less mixed with ochreous and fuscous. Palpi ochreous mixed with fuscous. Antennae darkfuscous, stalk ochreous. Thorax dark-fuscous; in \(\text{2} \) tegulae and patagia white. Abdomen dark-fuscous; tuft white. Legs dark-fuscous; anterior pair barred with ochreous above, clothed with white hair beneath. Forewings elongate-triangular, costa straight in \(\delta \), gently arched in \(\text{2}, \) apex round-pointed, termen slightly bowed, slightly oblique in \(\delta \), more so in \(\text{2}; \) dark-fuscous; in \(\delta \) a small variable white blotch below middle, sometimes nearly obsolete; in \(\text{2} \) this is much larger and extends from base to postmedian line, where it is acutely angled; a transverse dentate sub-basal line, fuscous edged anteriorly with white; a white median discal dot, sometimes obsolete in \(\delta \); postmedian veins partly outlined with ochreous; a finely dentate, curved line from \(\frac{3}{4} \) costa to mid-dorsum, usually not very distinct; cilia white barred with fuscous, bases sometimes ochreous.

Hindwings with termen rounded; in & dark-fuscous, in \$\partial \text{fuscous}\$; cilia as forewings.

Queensland: Rosewood; New South Wales: Ebor, Barrington Tops, Sydney, Katoomba, Jervis Bay, Mt. Kosciusko; Victoria: Healesville, Dandenong, Moe, Wandin, Gembrook; South Australia: Mt. Lofty, Port Lincoln.

18. Porela obtusa.

Pinara obtusa Wlk., Cat. Brit. Mus., xxxi., 315.—Opsirhina metastigma Wlk.,

ibid., xxxii., 556.—Mecytha antiqua Wlk., Char. Undesc. Lep., p. 20.

♂. 34 mm. ♀. 37-40 mm. Head and thorax grey. Palpi grey mixed with fuscous. Antennae fuscous, stalk grey. Abdomen grey; in ♂ suffused with fuscous towards base of dorsum. Legs grey; tarsi fuscous with whitish annulations. Forewings elongate-triangular, costa in ♂ straight, in ♀ arched, apex rounded, termen slightly bowed, in ♂ slightly oblique, in ♀ more strongly so; grey-whitish mixed with grey; a subterminal series of blackish dots, preceded on dorsum by an irregular patch chequered with blackish, and traversed by two short ochreous streaks on veins; cilia pale-grey. Hindwings with termen rounded; grey; cilia grey-whitish.

New South Wales: Sydney.

19. PORELA DELINEATA.

Tacillia delineata Wlk., Cat. Brit. Mus., vi., 1490.

3. 34-38 mm. 9. 40-46 mm. Head and thorax white. Palpi dark-fuscous mixed with pale-ochreous. Antennal stalk whitish with some fuscous scales, or Abdomen whitish; on dorsum mostly wholly fuscous; pectinations blackish. fuscous, less so in \(\begin{aligned} \text{.} Legs usually whitish; tarsi dark-fuscous annulated with pale-ochreous. Forewings triangular, costa straight to near apex in 3, gently arched in 2, apex rounded, termen slightly bowed, slightly oblique; whitish irrorated and suffused with fuscous, darker towards costa and base; veins more or less outlined with ochreous; a transverse dentate line from one-third costa to two-fifths dorsum, fuscous edged anteriorly with whitish; a finely denticulate line from two-thirds costa, at first outwardly oblique, then bent strongly inwards ending on mid-dorsum, fuscous, edged posteriorly with whitish; a white discal spot before middle; space between lines suffusedly white towards dorsum; a subterminal series of blackish dots near and parallel to second line; cilia whitish barred with fuscous opposite veins. Hindwings with termen rounded; pale-fuscous, usually with a transverse whitish median band, sometimes almost wholly whitish; cilia as forewings.

Very similar to P. arida, but without reddish coloration in hindwings and abdomen, markings of forewings more distinct, head and thorax white, antennal

pectinations blackish.

Victoria: Melbourne; South Australia: Port Lincoln.

20. Porela arida.

Clathe arida Wlk., Cat. Brit. Mus., v., 994.—Listoca lignaria Wlk., ibid., v., 1021.—Sorema nubila Wlk., ibid., v., 1065.—Perna metastigma Wlk., ibid., xxxii., 477.

ở. 36-42 mm. ♀. 46-60 mm. Head and thorax ochreous-whitish or grey-whitish. Palpi fuscous. Antennal stalk whitish irrorated with fuscous; pectinations ochreous or ochreous-fuscous. Abdomen ochreous-whitish; in ♂ basal three-fourths of dorsum fuscous-red. Legs ochreous-whitish; tarsi whitish or pale-ochreous barred with blackish. Forewings triangular, costa gently arched,

apex rounded, termen bowed, slightly oblique in \mathcal{S} , more so in \mathcal{S} , ochreous-whitish, more or less suffused with brownish-ochreous and grey; veins in terminal area more or less ochreous-tinged; a strongly dentate fuseous transverse line from one-third costa to one-third dorsum, sometimes obsolete; a white, median, discal dot; a fuseous line from three-fourths costa, at first very acutely dentate and transverse, then bent sharply inwards and shortly dentate to middorsum, usually distinct, sometimes faint; a fuseous suffused patch on dorsum posterior to this line; a subterminal series of fuseous dots suffusedly edged with whitish, sometimes elongate, sometimes nearly obsolete; cilia ochreous-whitish with fuseous bars, but these are sometimes obsolete in \mathcal{S} . Hindwings with termen rounded; in \mathcal{S} fuseous-reddish, in \mathcal{S} ochreous-whitish with slight brownish or grey suffusion; cilia as forewings.

Northern Territory: Stapleton; North Queensland: Prince of Wales Is., Cairns, Ingham, Townsville; Queensland: Duaringa, Brisbane; New South Wales:

Lismore, Sydney, Jervis Bay.

21. Porela VITULINA.

Bombyx vitulina Don., Ins. New Holl., Pl. 35.

\$\mathcal{S}\$. 48-50 mm. \text{ Q}\$. 64 mm. Head white; face ochreous-tinged with a median transverse fuscous line. Palpi dark-fuscous, apical third ochreous. Antennae ochreous-fuscous, stalk whitish irrorated with fuscous. Thorax white; a central fuscous longitudinal line diverging into a broad V at each extremity. Legs fuscous annulated with ochreous; anterior tibiae with ventral hairs white. Forewings triangular, costa straight to near apex, apex rounded, termen slightly bowed, in δ slightly oblique, in \text{ Q more strongly so; white with some patchy fuscous suffusion and fuscous markings; a basal patch; a broad, outwardly-curved, transverse line at \(\frac{1}{4}\); a median, white-centred, discal spot; a broad line from beyond mid-costa, at first transverse, then oblique to mid-dorsum, with a posterior tooth above and another below middle; a twice-sinuate, dentate, subterminal line; a terminal suffusion; cilia white with fuscous bars. Hindwings with termen rounded; fuscous with suffused, transverse, median and subterminal, paler fasciae; cilia as forewings.

Queensland: Brisbane, Southport, Coolangatta; New South Wales: New-

castle; Victoria: Melbourne.

22. Porela subfasciata.

Sinaga subfasciata Wlk., Cat. Brit. Mus., iv., 855.—Bombyx barnardi Luc.,

Trans. Nat. Hist. Soc. Q'ld., i., 104.

ở. 34 mm. ♀. 44-50 mm. Head and thorax white, more or less suffused with brown. Palpi white with dark-fuscous hairs from base. Antennae dark-fuscous. Abdomen fuscous-brown; tuft paler. Legs brown-whitish; tarsi dark-fuscous annulated with white. Forewings triangular, costa straight to near apex, apex rounded, termen straight, in ♂ not oblique, in ♀ slightly so; fuscous-brown; an outwardly-curved, broad, white, sub-basal, transverse line to near dorsum, where it curves inwards towards base; a white median discal spot; a sinuate line from ¾ costa to mid-dorsum; a suffused white subterminal fascia preceded below costa and on dorsum, interrupted in middle, and partly edged posteriorly, by blackish spots; cilia fuscous brown. Hindwings with termen rounded; fuscous-brown, in ♀ paler; cilia white.

New South Wales: Bathurst; Tasmania: Ulverstone, Georgetown.

23. Porela galactodes.

Bombyx galactodes Low., Trans. Roy. Soc. S. Aust., 1893, 151.

\$\delta\$. 44-46 mm. \(\text{9}\). 68 mm. Head, palpi, thorax, and abdomen in \$\delta\$ darkfuscous, in \(\text{9}\) fuscous. Antennae brownish, stalk fuscous. Legs fuscous; tarsi annulated with white. Forewings triangular, costa straight to near apex, apex rounded, termen bowed, oblique; white generally suffused or irrorated with fuscous, more densely so towards base and between first and second lines, whiter in costal area between second and third lines; an outwardly-curved, dark-fuscous sub-basal line curved inwards towards base of dorsum; an antemedian, pale-centred discal spot; a dark-fuscous line irregularly dentate with a posterior tooth above middle, from or from beyond mid-costa to mid-dorsum; a finely dentate subterminal line indented beneath costa; cilia fuscous. Hindwings with termen rounded; in δ dark-fuscous with a white terminal band, interrupted on veins, and not quite reaching tornus; in \(\text{\text{9}}\) whitish, basal area and a postmedian line fuscous; cilia fuscous.

Queensland: Duaringa, Clermont; Victoria: Kewell, Birchip. In a & example from the last locality the terminal white band of hindwings is broader and more suffused, and the apices of palpi are whitish. In the \$\gamma\$ from Kewell the hindwings are almost wholly grey-whitish. This form is a local race of galactodes; it has been known as homospila Meyr., but I do not think that name has been published.

24. Porela notabilis.

Teara notabilis Wlk., Cat. Brit. Mus., iv., 852.—Cosmotricha notadontina Feld., Reise Nov., Pl. 84, f. 11.—Bombyx mioleuca Meyr., Trans. Roy. Soc. S. Aust., 1891, 190.

 δ . 43 mm. \mathfrak{P} . 56 mm. Head, palpi, and thorax fuscous or grey. Antennae fuscous or grey; pectinations ochreous-tinged, in δ 12, in \mathfrak{P} 2½. Abdomen grey. Legs fuscous or grey. Forewings elongate-triangular, costa straight nearly to apex in δ , straight to two-thirds in \mathfrak{P} , apex rounded, termen slightly bowed, oblique; grey; a basal fuscous patch in δ ; a dark-fuscous, straight, subbasal, transverse line, edged anteriorly with whitish; a whitish discal spot before middle, edged with fuscous, slightly reniform; a thick dark fuscous line from three-fifths costa obtusely angled outwards in disc, then curved inwards, bent outwards again to end on three-fifths dorsum, edged posteriorly with whitish; a subterminal series of whitish spots, or in \mathfrak{P} a subterminal whitish suffusion containing a suffused wavy dark line; cilia grey, apices whitish, with fuscous bars opposite veins. Hindwings with termen strongly rounded; whitish; cilia whitish.

Described from two examples including the type in the British Museum. Three examples in my own collection have the discoidal spot almost circular.

New South Wales: Bourke; Victoria: Birchip, Kewell; South Australia: Adelaide; Western Australia: Northam, Kalgoorlie.

25. Porela amathodes, n.sp. ἀμᾶθώδης, sandy.

3. 32 mm. Head, palpi, thorax, and abdomen pale brownish. Antennae brown-whitish; pectinations in 3. 12. Legs pale brownish. Forewings elongate-triangular, costa straight to near apex, apex rounded, termen bowed, scarcely oblique; pale brownish with slight fuscous irroration in cell and on veins; a pale discal spot before middle in darker area; a double fuscous line with a contained pale line from 4 costa to mid-dorsum, rounded in disc, sinuate above

dorsum; eilia brownish mixed with fuscous. Hindwings with termen strongly rounded; ochreous-whitish; eilia ochreous-whitish.

Differs from other species of *Porela* in having 6 and 7 of the forewings connate not stalked.

N.W.A.: Sherlock River; one specimen in the British Museum.

26. Porela albifinis.

Callia albifinis Wlk., Cat. Brit. Mus., vi., 1483.

3. 32-42 mm. ♀. 48 mm. Head, palpi, brown. Antennae brown mixed with whitish; pectinations pale-ochreous, in 3 12, in ♀ 2. Thorax brown, tips of hairs whitish; posteriorly fuscous. Abdomen white; basal segments fuscous on dorsum. Legs brown. Forewings elongate-triangular, costa straight nearly to apex, apex rounded, termen bowed, slightly oblique; brown, somewhat reddish tinged or fuscous-brown; a whitish transverse line near base with a sharp posterior tooth beneath costa; a white median discal spot, outlined with blackish, more or less reniform; a wavy whitish line from two-thirds costa to two-thirds dorsum; a whitish subterminal shade containing a dentate dark line; cilia brown or fuscous-brown. Hindwings with termen strongly rounded; whitish; eilia whitish.

Described from three examples including the type in the British Museum. New South Wales: Sydney; Victoria: Melbourne; Tasmania: Hobart, Launceston.

27. Porela contermina.

Callia albifinis Q. Wlk., Cat. Brit. Mus., vi., 1483.—Callia contermina Wlk., Cat. Brit. Mus., xxxii., 572.

9. 39 mm. Head whitish; sides of face dark-fuscous. Palpi 3; dark-fuscous. Antennae dark-fuscous; pectinations in \$\frac{2}\$ 1. Thorax whitish. Abdomen brown, tuft whitish. Legs fuscous with long whitish hairs; tarsi fuscous annulated with whitish. Forewings elongate-triangular, costa straight to two-thirds, thence gently arched, apex round-pointed, termen bowed, oblique; brown; markings white; a median basal spot; a fine, wavy, slightly outwardly-curved line from one-sixth costa to one-sixth dorsum; a median discal spot; a finely dentate, outwardly-curved line from two-thirds costa to dorsum beyond middle; a series of rather large dark-brown spots from apex to tornus, finely edged posteriorly with white; cilia white, apices and bars opposite veins brown. Hindwings with termen strongly rounded; brown, paler near base; cilia brown, bases partly whitish.

Allied to P. albifinis, but structurally peculiar in having four pseudoneuria from subcostal cell, two before and two after middle. The description is taken from the British Museum type, which is from Tasmania.

6. Genus Symphyta.

Turn., Trans. Roy. Soc. S. Aust., 1902, 187. Type, S. psaropis Turn. Eyes hairy. Palpi short, not extending beyond frontal tuft. Forewings with 2 from one-third, 3 from two-thirds, 6, 7, 8 stalked. Hindwings with cell 4 to one-third; 2 from shortly before angle, 4 and 5 stalked from angle, 3 separate, connate, or short-stalked, 7 from near base, 11 absent, 12 anastomosing with 7 near its base; subcostal cell small, with two strong sometimes branching pseudoneuria, one from base, the other from middle.

Key to	species.	

1.	Forewings	with an	oblique	postmedian	line		 	• •	 . oxygramma
	Forewings	without	postme	dian line .			 		 . 2.
2	Forewings	with ter	men str	ongly sinua	te in	♂	 		 colpodes
	73	* 11 1							້າ

Forewings with termen not sinuate 3.

28. Symphyta Oxygramma.

Bombyx oxygramma Low., Trans. Roy. Soc. S. Aust., 1902, 213.

♂. 34-36 mm. ♀. 42 mm. Head, palpi, thorax, and abdomen fuscous or grey. Antennae dark-fuscous. Legs fuscous. Forewings elongate-triangular, costa straight to near apex, apex rounded, termen slightly bowed, oblique; whitish with general dense fuscous irroration, appearing grey; a fuscous discal dot before middle on end of cell; a finely dentate fuscous line from beneath apex to two-thirds dorsum, more or less edged with whitish anteriorly; cilia grey-whitish barred with fuscous. Hindwings with termen rounded; grey-whitish; cilia as forewings.

An inland species.

Queensland: Jandowae; New South Wales: Bourke, Broken Hill; South Australia: McDouall Peak; Western Australia: Quairading, Merredin.

29. Symphyta colpodes, n.sp. κολπώδης, sinuate.

3. 36 mm. Head, palpi, antennae, thorax, abdomen and legs fuscous. Forewings elongate-triangular, costa straight to near apex, there strongly arched, apex pointed, termen strongly sinuate, oblique; fuscous with general whitish irroration, appearing dark-grey; a whitish median discal spot; most veins outlined with fuscous; cilia fuscous, apices white except opposite veins. Hindwings with termen rounded; fuscous; cilia as forewings.

Western Australia: Cunderdin in November; one specimen received from Mr. R. Illidge.

30. Symphyta Nyctopis.

Turn., Trans. Roy. Soc. S. Aust., 1902, 187.

North Queensland: Townsville; Queensland: Emerald, Jandowae; Victoria: Sea Lake. Apparently confined to dry districts.

31. Symphyta psaropis.

Turn., Trans. Roy. Soc. S. Aust., 1902, 187.

North Queensland: Cairns, Townsville; Queensland: Gayndah.

7. Genus Cyclophragma.

Turn., Ann. Q'ld. Mus., x., 1911, 94. Type, C. cyclomela Low.

Eyes smooth. Palpi short, not reaching beyond frontal tuft. Forewings with 2 from one-third, 3 from two-thirds, 6 and 7 stalked, 8 separate, 11 from two-thirds. Hindwings in δ elongate; cell about $\frac{1}{4}$; 2 from shortly before angle, 4 and 5 stalked, 7 from about middle, 11 absent, 12 anastomosing very shortly with 7 after its origin; subcostal cell moderately large, a strong pseudoneurium from its base, and some very weak indications of additional pseudoneuria.

32. CYCLOPHRAGMA CYCLOMELA.

Opsirhina cyclomela Low., Trans. Roy. Soc. S. Aust., 1903, 183.

- 60-66 mm. Head and thorax pale-ochreous-grey. Palpi fuscous irrorated with grey. Antennae greyish ochreous with some fuscous scales. Abdomen ochreous with lateral series of large blackish marks on each segment, approximated but not meeting dorsally; tuft and underside grey. Legs grey; anterior pair fuscous; tarsi annulated with whitish. Forewings suboval, costa strongly arched, apex rounded, termen nearly straight, oblique; pale-ochreous-grey with some fuscous irroration; a small ochreous tuft of hairs on base of dorsum; five, wavy, or crenulate, fuscous, transverse lines; first slender, sub-basal; second at one-sixth; third at one-third, stronger towards costa; fourth beyond middle stronger towards costa; fifth at two-thirds, faintly marked; a minute white discal dot posterior to third line; a subterminal series of blackish dots; cilia grey. Hindwings strongly elongate, termen rounded; grey, almost wholly suffused with fuscous, but apical area free from suffusion and crossed by two fuscous lines; extreme base with ochreous hairs; cilia fuscous-grey, apices whitish.
- 9. 90-110 mm. Forewings similar, but transverse lines very faintly indicated; no basal tuft on dorsum. Hindwings not elongate; uniformly grey, except for a slight ochreous tinge at base. Abdomen uniformly grey.

North Queensland: Cooktown, Townsville, Mackay.

8. Genus Entometa.

Wlk., Cat. Brit. Mus., iv., 972. Type, E. marginata Wlk.

Eyes smooth, large, rather smaller in 9. Palpi very long, porrect, much exceeding frontal tuft. Forewings elongate; 2 from one-third; 3 from two-thirds, 6 and 7 stalked, 8 connate or separate, 11 from middle. Hindwings with cell less than ½; 2 from before angle, 4 and 5 stalked, 3 connate or short-stalked, 7 from one-third, 11 absent, 12 anastomosing very shortly with 7 near its origin; subcostal cell moderate, with basal and median pseudoneuria, the former often obsolete.

Distinguished from the following genus by its large smooth eyes. The species are closely allied and require careful discrimination.

Key to males.

1.	Hindwings blackish with orange terminal band marginata
	Hindwings not so 2.
2.	Hindwings fuscous or dark-reddish fervens
	Hindwings orange 3.
3.	Hindwings with more or less fuscous suffusion in basal two-thirds apicalis
	Hindwings without basal fuscous suffusion 4.
4.	Forewings with transverse lines and dark irroration more or less developed
	5.
	Forewings pale, without lines and irroration albida
5.	Forewings with conspicuous, broad, suffused lines guttularis
	Forewings with lines very slender, inconspicuous, not suffused 6.
6.	Forewings narrowly triangular, apex pointed sobria
	Forewings broad, apex more rounded

It does not seem possible to construct a satisfactory key for the females, but the following characters will be found helpful. The female albida is very

similar to the \mathcal{S} , and has no irroration nor markings except a discal dot on the forewings. The female marginata I have not seen. E. fervens has sometimes a dusky suffusion, which is never present in other species, and very often a dark suffusion across hindwings, which is absent in sobria and chlorosacca. It is smaller than sobria, the forewings have the ground colour more whitish, and the transverse lines are more distinct; apicalis is very like sobria; but often larger, the hindwings more deeply orange, and with a suffused median transverse darker shade; guttularis is readily distinguished by the broad dark transverse lines on forewings; chlorosacca has the lines on forewings very slightly, if at all, developed, contrasting with the well-marked discal spot.

E. sobria and probably other species spin an oval whitish cocoon, as found in other genera; chlorosacca is conspicuously distinct by its oval cocoon of a bright green colour, which is unique, so far as I know, in the Lepidoptera. The cocoon of apicalis is brown, and quadrangular from the longitudinally arranged narrow leaves, which are incorporated with it. More knowledge of the early stages of these and other species is needed. The possibility cannot at present be excluded, that guttularis may be a varietal form of sobria, and that both may be a local race of fervens; I think, however, they are good species.

33. Entometa marginata.

Wlk., Cat. Brit. Mus., iv., 972.

d. 55-60 mm. Head and thorax brown with fine orange irroration. Palpi 2½; brown. Antennae fuscous-brown. Abdomen blackish. Legs brown. Forewings narrowly triangular, costa straight to near apex, apex rounded, termen sinuate, strongly exeavated in middle, strongly oblique; brown densely irrorated with orange; three transverse fuscous lines; first from one-fifth costa to one-fifth dorsum, outwardly curved and dentate; an obscure fuscous dot on end of cell at ¼; second line from two-thirds costa to dorsum before middle, finely waved; third from ¼ dorsum, parallel to termen, wavy, becoming obsolete towards costa; cilia brown. Hindwings with termen rounded; 4 and 5 short-stalked; blackish; an orange terminal band not quite reaching apex and tornus, sharply defined, its anterior border dentate; cilia orange, on apex and dorsum blackish.

I do not know the ? of this species.

Victoria: Melbourne, Gisborne; Tasmania: ———.

34. ENTOMETA FERVENS.

9. Opsirhina fervens Wlk., Cat. Brit. Mus., vi., 1419.—3. Lebeda obscura Wlk., ibid., vi., 1464.—3. Lebeda saturata Wlk., ibid., xxxii., 569.—3. Entometa despecta Wlk., Char. Undesc. Lep., p. 66.

♂. 44-64 mm. Head and thorax pale-ochreous usually finely irrorated with reddish or fuseous. Palpi 2½ to 3; fuseous with more or less pale-ochreous irroration. Antennae fuseous; peetinations ochreous-tinged. Abdomen fuseous or fuseous-reddish; paler beneath. Legs brownish. Forewings narrowly triangular, costa straight to near apex, apex pointed, termen sinuate, oblique; pale-ochreous with more or less fine reddish ov fuseous irroration, sometimes dense; lines slender, fuseous; first from ¼ costa, slightly angled posteriorly beneath costa, not reaching dorsum; a fuseous discal mark on end of cell before middle; second line from ¾ costa to mid-dorsum, nearly straight, obscurely denticulate; third from beneath costa near apex to about ¾ dorsum, interrupted to form a series of inter-neural dots; eilia concolorous. Hindwings with termen rounded;

3 connate or short-stalked; dark-fuscous, usually reddish-tinged towards dorsum and base, or wholly reddish; cilia concolorous. Underside of forewings reddish-ochreous; towards apex and termen ochreous-grey; first and third lines obsolete, second developed; of hindwings ochreous-grey with a large dorsal fuscous or reddish suffusion, from which two fuscous lines proceed to costa beyond middle.

 \mathfrak{S} . 66-75 mm. Palpi 5. Forewings broader, costa arched, apex more rounded, termen bowed; whitish-ochreous, occasionally with fuscous irroration towards termen; lines as in \mathfrak{S} , but more distinct and sometimes reddish. Hindwings orange; often with a fuscous or reddish, transverse, median suffusion.

Walker's type is a 9 from Sydney, with an indistinct darker band across

forewings. One ? from Melbourne has the hindwings fuscous-brown.

New South Wales: Newcastle, Sydney, Broken Hill; Victoria: Melbourne; Tasmania: Launceston; South Australia: Adelaide, Mt. Lofty.

35. Entometa apicalis.

- 3. Lebeda apicalis Wlk., Cat. Brit. Mus., vi., 1464.
- 3. 66-75 mm. Head and thorax ochreous or reddish-ochreous. Palpi 2½; brown. Abdomen fuscous or brown; paler beneath. Legs fuscous or brown. Forewings triangular, costa straight to near apex, apex rounded, termen slightly sinuate oblique; pale-ochreous with more or less fine reddish-brown irroration; markings fuscous-brown; first line from one-fifth costa, angled outwards above and below middle, obsolete towards dorsum; a discal dot at one-third; second line from two-thirds costa to mid-dorsum, denticulate; third line from beneath costa near apex to ¾ dorsum, interrupted on veins to form a series of anteriorly curved lunules; cilia concolorous. Hindwings with termen strongly rounded; 3 connate with 4, 5; orange, basal two-thirds more or less suffused with fuscous-brown; cilia ochreous or orange. Underside of forewings with second and third lines developed; of hindwings ochreous-grey with a transverse fuscous ante-median line.
- ♀. 80-122 mm. Palpi 5. Coloration as in ♂, but abdomen pale-ochreous; hindwings with 3 separate or connate; orange with usually a faint, darker, median, transverse shade. Forewings with costa arched, termen slightly bowed; markings similar but less distinct.

The \mathcal{S} is easily recognised by its larger size, broader, pale forewings with distinct but slender lines and dichroic hindwings. The \mathcal{P} is very similar to E. fervens.

Queensland: Mt. Tambourine; New South Wales: Sydney; Victoria: Melbourne, Gisborne, Birchip; Tasmania: Launceston; South Australia: Murray Bridge.

36. ENTOMETA GUTTULARIS.

- \$\text{Q. Amydona guttularis Wlk., Cat. Brit. Mus., vi., 1413.—\$\text{Q. Opsirhina decorata Wlk., ibid., xxxii., 555.}}\$
- 3. 55 mm. Head and thorax brownish-ochreous. Palpi 3; fuscous-brown. Antennae dark-fuscous; pectinations ochreous. Abdomen brownish-ochreous. Legs brown. Forewings narrow, triangular, costa straight to near apex, apex roundpointed, termen slightly sinuate, oblique; pale-ochreous with brown irroration and markings; a basal costal spot; three stout transverse lines very distinctly developed, suffused and more or less confluent towards dorsum; first from \(\frac{1}{4} \) costa to \(\frac{1}{4} \) dorsum, acutely angled posteriorly beneath costa; a transverse mark on end of cell at two-fifths; second line from two-thirds costa to before mid-

dorsum, nearly straight, wavy; third line from beneath costa near apex to twothirds dorsum, broadly suffused and confluent with second line in dorsal half, posterior edge sinuate and subdentate; a narrow terminal suffusion; cilia brown. Hindwings with termen strongly rounded; 3 stalked with 4, 5 or separate; orange; a small brown costal suffusion; cilia brown. Underside paler; forewings with second and third lines only; hindwings with two short lines from costa beyond middle.

9. 170-172 mm. Coloration similar but paler. Palpi 4. Forewings broader, termen slightly bowed; markings strongly developed, but first line does not reach dorsum, discal mark at one-third; second and third lines much less suffused. Hindwings with 3 separate or connate.

This species is easily recognised, but, until the early stages are known, its distinctness from *E. fervens* will not be established. Walker erroneously gave the locality of his type of *guttularis* as South Africa.

Queensland: Brisbane.

37. Entometa sobria.

- 9. Opsirhina sobria Wlk., Cat. Brit. Mus., xxxii., 556.—39. O. flexicosta Feld., Reise Nov., Pl. 84, f. 4, 5.
- d. 52-58 mm. Head and thorax fuscous-reddish, usually finely irrorated with pale-ochreous. Palpi 3 to 3½; fuscous, irrorated with pale-ochreous. Antennae fuscous; pectinations ochreous-tinged. Abdomen pale-ochreous more or less suffused with fuscous-brown. Legs brown. Forewings rather narrow, triangular, costa straight to near apex, apex round-pointed, termen sinuate, oblique; pale-ochreous, more or less irrorated with reddish-fuscous, or rarely reddish with slight pale-ochreous irroration; transverse lines fuscous, very slender, often obscure or partly obsolete; first line from 4 costa, angled posteriorly beneath costa, not reaching dorsum, sometimes obsolete; sometimes a slight discal mark at two-fifths; second line from \(^3\) costa to mid-dorsum, sometimes denticulate; third line obsolete, or represented by a few spots only; cilia concolorous. Hindwings with termen strongly rounded; 3 connate or short-stalked; orange; a reddish-grey costal blotch; at base, dorsum, and sometimes termen narrowly pale-ochreous; cilia ochreous, sometimes mixed with brown. Underside of forewings grey, more or less orange-tinged in centre, second line well-developed, but not reaching dorsum; of hindwings grey, with a large whitish-ochreous dorsal blotch connected with mid-costa by a short fuscous line.
- ♀. 82-104 mm. Palpi 3 to 3½. Forewings broader, costa arched, apex rounded, termen bowed; whitish-ochreous with very slight brownish irroration; lines very slender, but better marked than in ♂; third line represented by a series of spots. Hindwings pale-orange.

Walker's type is a ? from Brisbane.

North Queensland: Cardwell; Queensland: Brisbane, Toowoomba; New South Wales: Lismore; Victoria: Melbourne, Brentwood, Kewell; Western Australia: Albany, Perth.

38. Entometa chlorosacca, n.sp. χλωροsακκοs, with green sack.

3. 60-75 mm. Head and thorax pale-ochreous, sometimes reddish-tinged-Palpi 2½ to 3; fuscous with some pale-ochreous irroration. Antennae fuscous; pectinations sometimes ochreous-tinged. Abdomen ochreous-grey or ochreous-whitish. Legs brownish or grey. Forewings moderately broad, triangular, costa

straight to near apex, apex rounded, termen slightly sinuate, oblique; whitish, more or less densely irrorated with reddish-brown; lines fuscous or reddish, sometimes distinct, sometimes very slender, partly obsolete; first line from \(\frac{1}{4}\) costa, slightly angled posteriorly beneath costa, not reaching dorsum; a small discal dot or mark; second line from \(\frac{3}{4}\) costa to mid-dorsum, sometimes denticulate; third line obsolete; cilia concolorous. Hindwings with termen rounded; 3 connate; orange; sometimes grey on costa and part of termen, and pale-ochreous on base and dorsum; cilia orange or brownish, apices whitish. Underside grey; of forewings orange-tinged; second line of forewings developed; hindwings with a short transverse fuscous line from mid-costa.

Q. 66-98 mm. Forewings rather paler, costa arched, termen bowed; all lines obsolete, or with second line faintly indicated, sometimes also an interrupted third line and very rarely any first line, but a well-marked reddish discal spot-

Hindwings pale-orange.

Northern Territory: Darwin; New South Wales: Newcastle; Victoria: Melbourne, Kewell, Inglewood; South Australia: Adelaide; Western Australia: Cunderdin; North West Australia: Derby.

The type is a 2 in the South Australian Museum. I have seen only three examples certainly bred from green cocoons, and all of this sex.

39. ENTOMETA ALBIDA.

Opsirhina albida Wlk., Cat. Brit. Mus., xxxii., 557.—Pinara erubescens Low., Trans. Roy. Soc. S. Aust., 1894, 77.

 δ . 54 mm. Head, thorax, and abdomen pale-ochreous. Palpi $2\frac{1}{2}$; fuscous, inner surface pale-ochreous. Antennae fuscous. Legs purple-fuscous; coxae pale-ochreous. Forewings narrowly triangular, costa straight, slightly arched beyond middle, apex round-pointed, termen doubly sinuate, concave in middle, strongly oblique; pale-ochreous becoming paler towards termen; a fuscous-brown diseal dot on end of cell; cilia concolorous. Hindwings rather elongate, termen strongly rounded; pale-ochreous, paler near termen; cilia concolorous.

9. 80 mm. Similar to 8, but considerably paler. Forewings broader, costa

moderately arched, termen slightly bowed. Palpi 2½.

Queensland: Duaringa, two specimens from the Miskin Collection in the Queensland Museum; New South Wales: Warangesda.

9. Genus Digglesia.

Turn., Ann. Q'ld. Mus., x., 1911, 86. Type, D. crocota Turn.

Eyes hairy. Palpi long or very long, porrect, exceeding frontal tuft. Forewings with 2 from or from before middle, 6 and 7 stalked, 8 separate, connate, or rarely stalked, 11 from middle; cell one-third to ½. Hindwings with cell about one-third; 2 from before angle, 4 and 5 stalked, 3 separate, connate, or stalked with them, 7 from before middle, 11 absent, 12 anastomosing shortly with 7 near its origin, subcostal cell moderate, with one or two pseudoneuria from near its middle.

A natural genus with some variability in its neuration.

Key to species.

	Forewings white with fuscous markings		
	Forewings not white	 	 $\frac{2}{2}$
9	Cilia of forewings with whitish opiose		0

	Cilia of forewings with apices not whitish 4.
3.	Forewings with discal spot; hindwings wholly or partly ochreous dasymalla
	Forewings without discal spot; hindwings reddish or fuscous rufescens
4.	Wings grey
	Wings reddish 6.
5.	Wings ochreous-grey-whitish spodopa
	Wings darker grey without ochreous tinge tephropsis
6.	Forewings with first and second lines confluent on dorsum crocota
	Forewings with first and second lines separate or obsolete 7.
7.	Size small; colour dark-reddish
	Size moderately large; colour pale-reddish or reddish-ochreous 8.
8.	of with palpi 4, hindwings elongate; Q with apex of forewings rounded
	cycloloma
	A with palpi 6 hindwings not elongate: 9 with apex of forewings pointed

40. DIGGLESIA ECNOMA, n.sp. εκνομος. unusual.

australasiae

 55 mm. Head whitish. Palpi and antennae blackish. Thorax darkfuscous mixed with reddish-ochreous and crossed by a transverse line of whitish Abdomen on dorsum ochreous, sides and under surface fuscous with apices of segments whitish. Legs fuscous; dorsal hairs whitish. elongate-triangular, costa gently arched, apex rounded, termen slightly bowed, oblique; cell one-third, 8 connate; white with well-defined dark-fuscous markings; a narrow basal fascia; a second fascia at one-fifth, connected with preceding on dorsum; a large discal spot at one-third; a narrow fascia from three-fifths costa to mid-dorsum sinuate, anteriorly crenated, connected with preceding by a submedian bar, a broader fascia also sinuate, but interrupted by veins, at four-fifths; a terminal series of large spots; cilia dark-fuscous, interrupted by whitish opposite veins. Hindwings with termen rounded; 3 connate; colour as forewings; broadly suffused, transverse, fuscous fasciae at 1/4 and middle; a terminal series of fuscous spots; cilia whitish.

Very different from any other known species.

Western Australia: Cunderdin, one specimen reared from the larva in March, received from Mr. W. B. Alexander.

41. DIGGLESIA DASYMALLA, n.sp. δασύ-μαλλος, thick-fleeced.

d. 44-48 mm. Head, palpi, and thorax ochreous-brown. Antennae fuscous-brown, stalk ochreous brown. Abdomen and legs brownish-ochreous. Forewings broadly triangular, costa straight to near apex, apex rounded-rectangular, termen straight, scarcely oblique; cell one-third, 8 separate; rather dark ochreous-brown; a small fuscous discal spot at one-third on end of cell; cilia ochreous-brown, apices except opposite veins whitish. Hindwings with termen rounded; 3 separate; brownish-ochreous; cilia brownish-ochreous, apices partly whitish.

9. 64 mm. Neuration as in 3. Colour uniformly fuscous, slightly ochreoussuffused only on bases of hindwings. Abdomen with terminal and lateral tufts extremely dense. Forewings broadly triangular, costa arched, termen slightly bowed, slightly oblique; discal spot very obscure. Hindwings with veins narrowly ochreous.

Type in Coll. Goldfinch. This and the following have the abdomen very hairy laterally as well as posteriorly.

New South Wales: Mount Kosciusko (5000 ft.) in December; three specimens received from Mr. G. M. Goldfinch. The males were taken flying swiftly in bright sunshine, the female at light at the hotel. The sexual dichroism, exceptional in this genus, is probably correlated with the day flying habit.

42. Digglesia rufescens.

Gastropacha rufescens Wlk., Cat. Brit. Mus., vi., 1395.—Megasoma rubida Wlk., ibid., xxxii., 566.—Bombyx crenulata Luc., Proc. Linn. Soc. N.S.W., 1893, 137.

3. 38-46 mm. $\$ 55-66 mm. Head, thorax, and abdomen grey, usually more or less reddish-tinged. Palpi 4 to 5; grey or reddish-grey. Antennae grey; pectinations in $\$ ochreous-tinged. Legs grey. Forewings triangular, costa slightly arched, apex rounded-rectangular, termen slightly sinuate, slightly waved, in $\$ scarcely oblique, in $\$ more distinctly so; cell one-third, 8 separate (1 $\$), connate (4 $\$, 5 $\$) or short-stalked (1 $\$); grey, usually more or less reddishtinged; sometimes a fuscous dot on end of cell at one-third; cilia concolorous, apices whitish between veins. Hindwings with termen strongly rounded; 3 separate, 4 and 5 stalked; colour and cilia as forewings.

Queensland: Brisbane, Stradbroke Island, Mt. Tambourine; New South Wales: Sydney, Jervis Bay, Mt. Kosciusko; Victoria: Melbourne, Beaconsfield, Gisborne, Mt. St. Bernard; Tasmania: Hobart; South Australia: Mt. Lofty.

43. DIGGLESIA SPODOPA.

Entometa spodopa Turn., Trans. Roy. Soc. S. Aust., 1904, 239.

Forewings with cell nearly $\frac{1}{2}$, 8 connate or stalked. Hindwings with 3 connate or stalked.

Queensland: Brisbane.

44. Digglesia tephropsis, n.sp. τεφροχίς, ash-coloured.

9. 50 mm. Head and thorax pale-grey. Palpi 8; expanded at apices; pale-grey. Antennae, abdomen, and legs pale-grey. Forewings elongate-triangular, costa arched, apex rectangular, termen bowed, strongly oblique; cell nearly ½, 8 connate; pale-grey; a fuscous discal dot at two-fifths; a faintly-marked subterminal series of interneural fuscous dots; cilia grey. Hindwings with termen rounded; cell one-third, 3 connate; dark-grey becoming paler towards base; cilia grey.

Allied to D. spodopa, but darker grey without ochreous tinge, and without first and second lines on forewings.

Queensland: Emerald in September; one specimen received from Mr. W. B. Barnard.

45. DIGGLESIA CROCOTA.

Turn., Ann. Q'ld. Mus., x., 1911, 86.

\$\, \forall \text{54-56 mm}\$. Head and thorax orange-brown. Palpi 6; somewhat expanded at apex; grey. Antennae pale-ochreous. Abdomen ochreous-brown; underside darker. Legs brown. Forewings suboval, costa strongly arched, apex rectangular, termen nearly straight, moderately oblique; cell two-fifths, 6, 7, 8 stalked (2 \(\frac{9}{2} \)); reddish-ochreous; markings fuscous; a nearly straight, wavy line from one-third costa to one-third dorsum; a discal dot at one-third between lines; second line wavy, from mid-costa, curved inwards to join first line on dorsum;

an interrupted line, or chain of dots, from costa near apex to two-thirds dorsum, angled obtusely outwards below middle; cilia orange-brown. Hindwings with termen strongly rounded; 3, 4, 5 stalked; pale-reddish; cilia rather paler. Underside of hindwings with a very large dark blotch bisected by a darker line.

North Queensland: Kuranda near Cairns, Cardwell.

46. DIGGLESIA NANA.

Opsirhina nana Wlk., Cat. Brit. Mus., vi., 1421.

σ. 25-28 mm. Head and thorax reddish. Palpi 6; reddish. Antennae pale-grey, reddish-tinged; pectinations fuscous. Abdomen fuscous; underside ochreous-reddish. Legs reddish. Forewings triangular, costa straight nearly to apex, apex pointed, termen straight, oblique; cell ½, 8 connate; uniformly reddish; a fuscous discal dot at ½; a slender, oblique, dark line from two-thirds costa to dorsum beyond middle; traces of a similar subterminal line; cilia reddish. Hindwings with termen rounded; cell ¼ to one-third, 3 connate or stalked; dark-reddish with a fuscous subdorsal suffusion; cilia dark-reddish.

9. Unknown.

Much smaller than any other species.

Tasmania: Launceston, Lefroy.

47. DIGGLESIA CYCLOLOMA.

Entometa cycloloma Turn., Trans. Roy. Soc. S. Aust., 1902, 186.—E. plinthopa Turn., ibid., 1904, 239.

Forewings with cell nearly ½, 8 connate or stalked. Hindwings with 3 connate or stalked.

Northern Territory: Darwin; North Queensland: Cooktown, Cairns, Townsville; Queensland: Nambour, Mt. Tambourine, National Park (4000 ft.); New South Wales: Lismore; Victoria: Moe.

48. DIGGLESIA AUSTRALASIAE.

Bombyx australasiae Fab., Syst. Ent., iii. (1), 422.—Opsirhina nasuta Wlk., Cat. Brit. Mus., vi., 1420.—O. intemerata Wlk., ibid., xxxii., 557.—O. cinereata Wlk., ibid., xxxii., 558.—O. pudorina Wlk., ibid., xxxii., 558.—Bombyx frugalis Luc., Proc. Roy. Soc. Q'ld., 1901, 74.—Pinara pervicax Luc., ibid., 1901, 76.

3. 32-36 mm. Eyes small. Palpi very long, more than twice length of frontal tuft. Head, palpi, antennae, thorax, abdomen, and legs ochreous-reddish. Forewings oval-triangular, costa straight to near apex, apex rounded, termen bowed, oblique; cell ½, 8 connate or stalked; reddish-ochreous; two faintly marked transverse lines, darker than ground colour, but edged with paler ochreous; first from one-third costa, strongly outwardly curved to near base of dorsum, pale anteriorly; second from two-thirds costa, curved outwardly beneath costa, thence straight to about mid-dorsum, pale posteriorly; a minute dark discal dot before middle; a subterminal series of dark dots forming a nearly straight line; cilia concolorous. Hindwings with termen rounded; 3 connate or stalked; reddish, rather darker than forewings; cilia concolorous.

\$\overline{\phi}\$. 42-52 mm. Wings much more elongate; forewings narrow, apex tolerably pointed; markings sometimes distinct, but often obsolete.

Queensland: Clermont, Brisbane, Rosewood, Toowoomba; New South Wales: Lismore, Sydney, Jervis Bay, Mt. Kosciusko; Victoria: Melbourne, Beaconsfield,

Gisborne, Castlemaine; Tasmania: Launceston, Ulverstone, Hobart, Bothwell; South Australia: Adelaide, Mt. Lofty, Mt. Gambier; Western Australia: Perth.

10. Genus Opsirhina.

Wlk., Cat. Brit. Mus., vi., 1418; Turn., Trans. Roy. Soc. S. Aust., 1904,

240. Type, O. albigutta Wlk.

Eyes hairy. Palpi long, porrect, exceeding frontal tuft. Forewings with cell ½ or less; 2 from one-third, 3 from two-thirds, 6 and 7 stalked, 8 sometimes stalked with them, 11 from middle. Hindwings with cell less than ½; 2 from middle, 3 from ¾, 4 and 5 separate, 7 from one-third or from before one-third, 11 absent, 12 anastomosing shortly with 7 soon after its origin; subcostal cell moderate or rather small, with a basal and sometimes also a median pseudoneurium.

Key to species.

49. Opsirhina albigutta.

& C. Opsirhina albigutta Wlk., Cat. Brit. Mus., vi., 1419.—♀. Rhathymodes 4echriodes Turn., Ann. Q'ld. Mus., x., 89.

đ. 22-26 mm. Head and thorax brown; face ochreous-whitish. Palpi 2½ to 3; fuscous-brown; upper edge ochreous-whitish. Antennae fuscous-brown; stalk partly whitish. Abdomen brown; tuft large, with some whitish hairs. Legs fuscous-brown; tarsi fuscous with whitish annulations. Forewings triangular, costa straight to middle, then gently arched, apex rounded, termen slightly bowed, scarcely oblique; 8 connate or short-stalked; dark-chestnut-brown, broadly suffused with whitish-grey towards termen and dorsum; a conspicuous white, obliquely transverse, discal mark at two-fifths; two very slender whitish transverse lines; first from ¼ costa to one-third dorsum; second from two-thirds costa to mid-dorsum, sinuate; a series of fuscous subterminal dots nearly parallel to second line, obsolete in middle of disc; cilia brown, apices whitish. Hindwings with termen rounded; subcostal cell with one or two pseudoneuria, 4 and 5 connate or separate; brown; cilia brown. Underside brown without markings.

9. 58-60 mm. Palpi 6. Forewings broader than in 3, costa more arched, apex more pointed, termen more oblique; coloration similar, but much paler and grey suffusion more variable; markings similar, but discal mark obsolete or very

faintly indicated. Hindwings as in 3, but paler.

One or two pseudoneuria arise from the subcostal cell, one from base, the

second, which is often absent, from about middle.

Queensland: Southport; New South Wales: Mt. Kosciusko; Victoria: Beaconsfield, Gisborne, Inverloch; Tasmania: Launceston, Hobart.

50. Opsirhina pyrsocoma.

Clathe pyrsocoma Turn., Trans. Roy. Soc. S. Aust., 1902, 185.

Palpi in δ 4, in $\mathfrak P$ 5. Forewings with 8 separate, connate, or short-stalked. Hindwings with a single pseudoneurium, sometimes branched, from base of subcostal cell; 4 and 5 separate.

Northern Territory: Darwin; North Queensland: Thursday Island, Cooktown, Herberton, Townsville; Queensland: Gayndalı, Brisbane.

11. Genus Neurochyta.

Turn., Trans. Ent. Soc., 1918, 181. Type, N. edna Swin.

Palpi moderately long, porrect, reaching beyond frontal tuft, densely hairy. Forewings with 2 from one-third, 3 from two-thirds, 4 and 5 approximated at origin from angle of cell, 6 from upper angle of cell, connate or stalked with 7 and 8, which are stalked, 11 from two-thirds, free, but running close under 12. Hindwings with 2 from middle of cell, 3 from shortly before angle, 4 and 5 stalked from angle, 6 from upper angle, 7 from shortly before angle, 12 anastomosing with cell from near base to one-third; subcostal cell small, two pseudoneuria arising together near base and diverging.

Differs from all other Australian genera in 7 of hindwings arising from near end of cell, and 12 anastomosing with cell near base. Mr. W. H. T. Tams

of the British Museum informs me that the eyes are smooth.

51. NEUROCHYTA EDNA.

Clathe edna Swin., Ann. Mag. Nat. Hist. (7), ix., 1902, 166.

 δ . 21-22 mm. 2. 36 mm. Head and thorax whitish-ochreous; in \mathfrak{P} greywhitish. Palpi whitish-ochreous; pectinations in δ 9, in \mathfrak{P} 3. Abdomen whitish-ochreous tinged with reddish. Legs whitish-ochreous; anterior pair reddishtinged. Forewings triangular, costa straight, apex round-pointed, termen scarcely bowed, slightly oblique; ochreous-whitish irrorated with reddish-brown, more densely in δ ; cilia ochreous-whitish, in δ tinged with reddish-brown. Hindwings with termen rounded; ochreous-whitish, in δ reddish-tinged; cilia concolorous.

Described from four examples, including the type, in the British Museum.

North West Australia: Sherlock River.

12. Genus Perna.

Wlk., Cat. Brit. Mus., v., 1127. Type, P. exposita Lewin.

Eyes hairy; sometimes small. Palpi short, not extending beyond frontal tuft. Forewings with 2 from about one-third, 3 from about two-thirds, 6 and 7 stalked, 11 from middle. Hindwings with cell ½ or less; 2 from middle, 7 from before or beyond middle, stalked with 11, which runs into 12; subcostal cell large, with a strong pseudoneurium from its base.

Key to species.

52. PERNA CHLOROPHRAGMA.

Bombyx chlorophragma Meyr. (ined?).

of. 35-37 mm. Head white; sides of face sometimes ochreous. Palpi dark-fuscous; towards apex ochreous. Antennae ochreous-fuscous, stalk white. Thorax and abdomen white. Legs white; tarsi grey. Forewings triangular, costa straight, apex rounded, termen nearly straight, oblique; white; markings grey, clearly defined; a spot on base of costa; a sub-basal spot; a broad line from one-third costa to one-third dorsum, sharply angled posteriorly beneath costa; from this angle a longitudinal bar connects it with a similarly angled line from two-thirds costa to two-thirds dorsum; and this longitudinal bar is sometimes

prolonged to connect with a submarginal line, angled first anteriorly then posteriorly beneath costa, thence wavy to before tornus; cilia white. Hindwings with termen rounded; white; cilia white.

Victoria: Kewell, Birchip; Western Australia: Beverley, Dowerin.

53. PERNA BREVIPENNIS.

Teara brevipennis Wlk., Cat. Brit. Mus., xxxii., 353.—Bombyx figurata Luc.,

Proc. Roy. Soc. Q'ld., 1901, 74.

3. 34-36 mm. 9. 46 mm. Head brownish; lower part of face ochreous. Palpi dark-fuscous, towards apex ochreous. Antennae brownish, stalk grey. Thorax fuscous-brown; patagia of & white except in centre. Abdomen whitish; in 9 grev. Legs whitish-ochreous; in 9 grey; tarsi fuscous. Forewings ovaltriangular, costa arched, apex rounded, termen bowed, oblique; fuscous-brown, in 9 grey; markings partly darker, partly white; a white basal patch containing a dark spot on costa; a transverse sub-basal dark line, followed by a whitish line, and this again by a dark line from one-third costa to one-third dorsum; similar three lines from two-thirds costa to two-thirds dorsum; median area between lines crossed by a dark-fuscous patch above middle, containing a central white spot, area between patch and dorsum white; in ? these markings are less distinct; a broad white subterminal line, not reaching costa, interrupted above middle; a subapical dark costal blotch giving rise to a broad dark submarginal line, posteriorly edged with whitish; a terminal series of white spots; cilia fuscous. Hindwings with termen rounded; white, in ? grey; cilia concolorous.

North Queensland: Cairns; Queensland: Brisbane; New South Wales: New-

castle.

54. PERNA EXPOSITA.

Bombyx exposita Lewin, Prodr. Ent., 8, 1805, Pl. vii.—B. pusilla Don., Ins. New Holl. Lep., 1805, Pl. xxxv.—d. Perna combinata Wlk., Cat. Brit. Mus., vii., 1757.—Q. Eriogaster lignosa Wlk., ibid., vii., 1767.—d. E. hebes Wlk., ibid., xxxii., 571.—Q. Cosmotriche indistincta Butl., Trans. Ent. Soc., 1886, 387.—Q. Poecilocampa brevis Wlk., ibid., xxxii., 571.—Q. Tacillia rufocinerea Wlk., ibid., xxxii., 573.

d. 28-32 mm. Head, palpi, and thorax brown or grey, tips of hairs whitish. Antennae brownish. Abdomen and legs brown or grey. Forewings triangular, costa straight to near apex, apex round-pointed, termen slightly bowed, slightly oblique; brown or grey with some whitish irroration, median band rather darker; an irregularly dentate dark-fuscous line from one-third costa to one-third dorsum; a similar line from two-thirds costa to two-thirds dorsum, bent first inwards beneath costa, then strongly outwards, inwards again above dorsum, posteriorly edged with whitish; a white median discal dot; a dentate fuscous subterminal line, edged anteriorly with whitish; cilia concolorous. Hindwings with termen rounded; brownish-fuscous or grey; cilia concolorous.

9. 34-40 mm. Forewings more elongate, termen more oblique; markings usually as in 3 but much fainter, sometimes obsolete; coloration brownish-grey.

North Queensland: Cairns, Herberton; Queensland: Clermont, Brisbane, Stradbroke Is., Coolangatta, Toowoomba; New South Wales: Sydney, Jervis Bay; Victoria: Melbourne, Lilydale, Gisborne, Kewell; Tasmania: Hobart; South Australia: Adelaide.

Species	unrecognised	or	wrongly	referred	to	this	family.
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- 55. Nadiasa parvigutta Wlk., Cat. Brit. Mus., v., 1015 is a ? Pinara, which I have not identified.
- 56. Perna ? flavescens Wlk., ibid., v., 1128 belongs to the Anthelidae.
- 57. Eriogaster ? simplex Wlk., ibid., vi., 1473.
- 58. Poecilocampa leucopyga Wlk., ibid., vi., 1477 is a synonym of Ochrogaster contraria (Notodontidae).
- 59. Entometa ignobilis Wlk., Char. Undesc. Lep., p. 67 belongs to the Psychidae.
- 60. Poecilocampa simplex Swin., Cat. Oxf. Mus., i., 1892, 267 is not Australian. It is probably Metanastria psidii Salle from Mexico.
- 61. Bombyx fumosa Luc., Trans. Nat. Hist. Soc. Q'ld., 1894, 104.
- 62. Bombyx ocularis Luc., ibid., 1894, 104 belongs to the Limacodidae.
- 63. Bombyx muris-olens Luc., ibid., 1894, 105 belongs to the Psychidae.
- 64. Bombyx effusa Luc., Proc. Roy. Soc. Q'ld., 1901, 75 is a synonym of Cynosarga ornata (Notodontidae).

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